What Is Claimed Is:

1. A method for producing a multilayer molded article in which an skin material having nap on the outer surface thereof is integrally molded with a substrate made of a synthetic resin, using a mold comprising a pair of male and female mold halves that can be moved toward and away from each other, said method comprising:

a first step of supplying a skin material to a gap between said pair of male and female halves of said mold in an opened state;

a second step of supplying molten synthetic resin between a back surface of said skin material and a molding surface of one of said pair of male and female mold halves that faces said back surface;

a third step of clamping said mold either after said thermoplastic resin has been supplied or while said thermoplastic resin is being supplied;

a fourth step of carrying out primary cooling of said molten synthetic resin while said mold is being clamped under a predetermined clamping pressure;

a fifth step of opening said mold halfway and forming a predetermined gap between said pair of male and female mold halves;

a sixth step of carrying out secondary cooling of said molten synthetic resin while said mold is being held in said half-open state; and

a seventh step of opening said mold after said molten synthetic resin has hardened and extracting a molded article as a final product;

wherein the time period of the operation to open said mold halfway in said fifth step is no more than one second.

2. The method according to Claim 1, wherein said gap between said pair of male and female mold halves in said fifth step equals or exceeds 80% of the thickness of said final product.

3. The method according to Claim 1, wherein said fourth step is divided into a first stage and a second stage, and wherein said mold is held at a first clamping pressure in said first stage and said mold is held at a second clamping pressure that is smaller than said first clamping pressure in said second stage.

4. The method according to Claim 1, wherein said gap formed between said pair of male and female mold halves in said fifth step is determined by adjusting in increments of 0.1 mm to ensure that the color of the outer surface of said skin material does not change significantly after molding and to ensure that there is minimal deformation of said molded article.

5. A method for producing a multilayer molded article by integrally molding an skin material having nap on the outer surface thereof and a substrate made of a

synthetic resin, using a mold comprising a pair of male and female mold halves that can come into contact with or move away from each other, wherein one of said mold halves has a movable block that is located such that it can be moved toward or away from the other mold half, and a surface of said movable block facing said other mold half constitutes part of a molding surface of said one mold half, said method comprising:

a first step of supplying a skin material to a gap between said pair of male and female mold halves of said mold in an open state and positioning said skin material at a position facing said surface of said movable block;

a second step of supplying molten synthetic resin between a back surface of said skin material and a molding surface of said other mold half that faces said back surface;

a third step of clamping said mold either after said molten synthetic resin has been supplied or while said molten synthetic resin is being supplied;

a fourth step of carrying out primary cooling of said molten synthetic resin while said mold is being clamped under a predetermined clamping pressure;

a fifth step of moving said movable block away from said other mold half and forming a predetermined gap between said movable block and said other mold half;

a sixth step of carrying out secondary cooling of said molten synthetic resin while said mold is being held in the ending state of said fifth step; and

a seventh step of opening said mold after said molten synthetic resin has hardened and extracting a molded article as a final product;

wherein the time period for moving said movable block in said fifth step is no more than one second.

6. The method according to Claim 5, wherein said gap between said pair of male and female mold halves in said fifth step equals or exceeds 80% of the thickness of said final product.

7. The method according to Claim 5, wherein said fourth step is divided into a first stage and a second stage, and wherein said mold is held at a first clamping pressure in said first stage and said mold is held at a second clamping pressure that is smaller than said first clamping pressure in said second stage.

8. The method according to Claim 5, wherein said gap formed between said pair of male and female mold halves in said fifth step is determined by adjusting in increments of 0.1 mm to ensure that the color of the outer surface of the skin material does not change significantly after molding and to ensure that there is minimal deformation of said molded article

9. A method for producing a multilayer molded article in which an skin material having nap on the outer surface thereof is integrally molded with a substrate made of a synthetic resin, using a mold comprising a pair of male and female mold halves that can be moved toward and away from each other, said method comprising:

a first step of supplying a skin material to a gap between said pair of male and female halves of said mold of said mold in an opened state;

a second step of supplying molten synthetic resin between a back surface of said skin material and a molding surface of one of said pair of male and female mold halves that faces said back surface;

a third step of clamping said mold either after said thermoplastic resin has been supplied or while said thermoplastic resin is being supplied;

a fourth step of carrying out primary cooling of said molten synthetic resin while said mold is being clamped under a predetermined clamping pressure;

a fifth step of opening said mold halfway and forming a predetermined gap between said pair of male and female mold halves;

a sixth step of carrying out secondary cooling of said molten synthetic resin while said mold is being

held in said half-open state; and

a seventh step of opening said mold after said molten synthetic resin has hardened and extracting a molded article as a final product; and

wherein said gap formed between said pair of male and female mold halves in said fifth step is determined by adjusting in increments of 0.1 mm to ensure that the color of the outer surface of the skin material does not change significantly after molding and to ensure that there is minimal deformation of said molded article.

10. The method according to Claim 9, wherein said gap between said pair of male and female mold halves in said fifth step equals or exceeds 80% of the thickness of said final product.

11. The method according to Claim 9, wherein said fourth step is divided into a first stage and a second stage, and wherein said mold is held at a first clamping pressure in said first stage and said mold is held at a second clamping pressure that is smaller than said first clamping pressure in said second stage.

12. A method for producing a multilayer molded article by integrally molding an skin material having nap on the outer surface thereof and a substrate made of a synthetic resin, using a mold comprising a pair of male and female mold halves that can come into contact with or move away from each other, in which one of said mold halves

has a movable block that is located such that it can be moved toward or away from the other mold half, and a surface of said movable block facing said other mold half constitutes part of a molding surface of said one mold half, said method comprising:

a first step of supplying a skin material to a gap between said pair of male and female mold halves of in an open state and positioning said skin material at a position facing said surface of said movable block;

a second step of supplying molten synthetic resin between a back surface of said skin material and a molding surface of said other mold half that faces said back surface;

a third step of clamping said mold either after said molten synthetic resin has been supplied or while said molten synthetic resin is being supplied;

a fourth step of carrying out primary cooling of said molten synthetic resin while said mold is being clamped under a predetermined clamping pressure;

a fifth step of moving said movable block away from said other mold half and forming a predetermined gap between said movable block and said other mold half;

a sixth step of carrying out secondary cooling of said molten synthetic resin while said mold is being held in the ending state of said fifth step; and

a seventh step of opening said mold after said

molten synthetic resin has hardened and extracting a molded article as a final product;

wherein said gap formed between said movable block and said other mold half in said fifth step is determined by adjusting in increments of 0.1 mm to ensure that the color of the outer surface of the skin material does not change significantly after molding and to ensure that there is minimal deformation of said molded article.

13. The method according to Claim 12, wherein said gap between said pair of male and female mold halves in said fifth step equals or exceeds 80% of the thickness of said final product.

14. The method according to Claim 12, wherein said fourth step is divided into a first stage and a second stage, and wherein said mold is held at a first clamping pressure in said first stage and said mold is held at a second clamping pressure that is smaller than said first clamping pressure in said second stage.